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A study investigated the relationship between group structure and leader recognition and compared task performance with group structure and leader recognition to obtain a better understanding of the adult basic education participant. Fifteen women were randomly assigned to three groups and each given a list of six symbols. Their task was to discover which symbol they all had in common. Participants were organized in a circle (conference) or straight line (panel). A total of 15 trials was used in each task. After each set of five trials, persons were asked to identify a group leader. In the second session the recognized leader from the panel sat with the same group in the conference, and the conference group moved to the panel situation. In the third session, the recognized leader from the panel operated in a conference group with different members. After each session right and wrong answers were recorded and leader identification ascertained. Findings indicated that group structure was a more important variable in task performance than leadership recognition; the relationship between past experience in a particular group and performance in a new group was shown to be significant. Leader recognition as a factor in the efficiency of task performance could not be substantiated with this study. (aj)

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FLORIDA STATE UNIVERSITY

THE RELATIONSHIP OF GROUP STRUCTURE, TASK PERFORMANCE, AND LEADERSHIP RECOGNITION AMONG ADULT BASIC EDUCATION PARTICIPANTS

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INTRODUCTION

The educational potential and progress of the lower-class persons have become acute public concern. This concern is primarily related, of course, to the close association between educational achievement and employment in a highly technical society.[1]

When the Economic Opportunity Act of 1964 was passed by the Eighty-eighth Congress, an important step was taken to eliminate causes of poverty by allowing adults in need of basic education an opportunity to "...become less dependent on others, obtain or retain more productive or profitable employment, and better meet their adult responsibilities."[2]

A great deal of writing has been done on individuals involved in adult basic education programs in the area of personality and sociological characteristics.[3] Very little, if any,

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[1]C. S. Chilman, "Growing Up Poor," U. S. Department of Health, Education and Welfare, Welfare Administration Publication #13 (Washington, D. C.: May, 1966).

[2]P. L. 88-452, Title II, Part B of the "Economic Opportunity Act of 1964," Eighty-eighth Cong., 2nd Sess. (August 20, 1964), Section 166. 2, Subpart B.

[3]F. W. Lanning and W. A. Marry, Basic Education for the Disadvantaged Adult: Theory and Practice (Boston: Houghton Mifflin Co., 1966).

experimental research has been done in the area of group structure as it relates to leadership determination in task performance for this select population. In this study the relationship of group structure, task performance, and leadership recognition among adult basic education participants will be explored and, it is hoped, that some basic information is provided which can be successfully incorporated in on-going programs and which will serve as valuable data for the future study of adult basic education participants.

Purpose of the study

The purpose of this study is to determine what effect an internal group leader will have on group performance with the same group members or different members when moving from a structured group, where the members are in a straight line, to an unstructured group, where each position has the same physical relation to the group; or the reverse.

Definition of terms

For the purposes of this study, the terms listed below shall be defined as follows:

1. Structured situation refers to a five member group organized in a particular physical arrangement. This arrangement will be known as a panel.

   In the literature this group is referred to as a chain.

   (a)_____(b)_____(c)_____(d)_____(e)

2. Unstructured situation refers to a five member group organized in a round table activity. This arrangement will be referred to as a conference group.

   In the literature this group is referred to as a circle.

   (a)

   (e) (b)

   (d) (c)

3. Leader refers to the member of the group who is recognized by the other members as a leader.

4. Adult Basic Education Participant refers to "an individual who has attained eighteen years of age and whose inability to read English constitutes a substantial impairment to his ability to obtain or retain employment or otherwise meet adult responsibilities, and who has the ability to comprehend content material below the eighth grade level and who has enrolled in an adult basic education program."[1]

Significance of the problem

The initial work in small group structures started by Bavelas in 1948 has been followed with considerable study in expanded experimental areas.[2] There were two main original questions posed: What effect does the structure of the group have on the efficient performance of the members and on their behavior? And, what effect does position in the group have on task satisfaction and morale? The first question has not been answered with any positive evidence, and this structure performance relationship may have a relationship to leadership development and group achievement. The answer to the second question, according to Bavelas' findings, was that the central physical positions in a group have a higher degree of satisfaction for the members who occupy those positions.[3]

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[1]Ibid., Regulations applicable to the administration of Title II, of the Economic Opportunity Act of 1964, Section 166.1.

[2]A. Bavelas, "A Mathematical Model for Group Structures," Applied Anthropology, Vol. 7 (1948), pp. 1-34.

[3]Bavelas, "A Mathematical Model...," p. 29.

No attempt has been made to relate leadership recognition in one physical situation to sustained group performance in another; i.e., if once an individual is recognized as the group leader, what effect will this have on group performance when the leader is moved to a different physical situation?

These two questions have been expanded to cover a range of variables and have had extensive study in the laboratory. Later work by Rosenberg and Hall directed effort to specific areas of military study.[1] This work was restricted in the approach used and did little to open areas for more practical application.

The research to-date suggest that some of the previous work in this area can lend itself to practical application and may give valuable insights into the complex problems faced by adults as they try to develop new skills and up-grade their education.

Need for the study

Frequently in organized education's approach to problem solving and problem determination, a number of individuals are brought together with the group structure established in the round table fashion. That is, the individuals sit down with an appointed leader, or one is chosen, and the task gets underway in this semi-formal seating. In

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[1]S. Rosenberg and R. L. Hall, "The Effects of Different Social Feedback Conditions upon Performance in Dyadic Teams," Journal of Abnormal Social Psychology, Vol. 57 (1958), pp. 271-277.

either case, a very important step has taken place that will affect the total performance of the body.

For individuals experienced in group process and who have worked in previous group situations, this traditional structuring may be adequate; but for adults with little formal education and few experiences in group situations that require a sophisticated effort, an attempt should be made to test some of the variables involved with regard to the particular participants and the situation.

How the group functions, with or without a leader, has been given considerable attention, and research in the area will be reviewed. This study will include a particular group of individuals: namely, those involved in Adult Basic Education classes, and an attempt will be made to determine whether or not they can become more effective in achieving group goals by controlling their position in a group. Although individuals with little education are often unfamiliar with leadership activities they are no less in need of the opportunity to perform in leadership capacities and are many times asked to sit together at a table and function as if this situation were as familiar to them as it might be to the educational organizer.

Review of related literature

Research in small group structures started in 1948 with Bavelas in the area of communication structure.[1] This early work

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[1]Bavelas, "A Mathematical Model...," pp. 16-30.

was complex in design and was followed with a study (1950) that was less theoretical and in which he raised a number of interesting points, but these were not followed by experimental work.[1] This work centered upon communication networks and attempted to show which communication patterns result in the best performance. His main question was: "...among several communication patterns, all logically adequate for the successful completion of a specified task, does one give significantly better performance than the other?"

In group studies, five and six member groups appear to be the most efficient in terms of quality of group decision and in the quantity of member participation. Bales and Borgatta found that in groups ranging in size from two to seven, whose members were engaged in a group decision problem, the rate of giving information and offering suggestions increased as size increased, while the rate of asking for opinion, and showing agreement decreased with increase in group size.[2]

Two other investigators, Bales[3] and Hare,[4] agreed that five

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[1]A. Bavelas, "Communication Patterns in Task-Oriented Groups," Journal of Acoustical Society, Vol. 22 (1950), pp. 725-30.

[2]R. F. Bales and E. Borgatta, "Size of Group as a Factor in the Interaction Profile," Small Groups, Edited by A. D. Hare et al. (New York: Knopf, 1955).

[3]R. F. Bales, "In Conference," Harvard Business Review, Vol. 32 (1954), pp. 44-50.

[4]A. P. Hare, "Interaction and Consensus in Different Sized Groups," American Sociological Review, Vol. 17 (1952), pp. 261-67.

is the most efficient number of persons to have in decision making groups in terms of the quality of decisions.

In this early research, Bavelas also presents information by Smith and Leavitt (1950) who used an experimental arrangement similar to the one herein proposed.[1] Five subjects were given a list of symbols and the task was to discover which symbol they all had in common. The task required two main steps: distribution of information and determination of the common symbol. The task was complete when a subject gave the answer signifying the common symbol. Smith used two communication structures; circle and chain (see definition 1) and found that structure did affect group performance. The level of content complexity for each group was not a considered variable. The chain proved to be more efficient than the circle; as indicated by the fewer number of mistakes. It is important to note that the central positions were most frequently seen to be occupied by leaders.

A summary of Smith's data from Bavelas (1950) is presented below. The circle is high in average total error; i.e., the number of times during a trial when a wrong answer is given, and the information presented for recognition of leader position is inconclusive. The

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[1]H. J. Leavitt, "Some Effects of Certain Communication Patterns on Group Performance," Journal of Abnormal and Social Psychology, Vol. 46 (1951), pp. 440-444; S. L. Smith, "Communication Pattern and the Adaptability of Task-Oriented Groups," The Polity Sciences, Lerner and Lasswell (eds.) (Stanford University Press, 1950).

chain performs more efficiently than the circle, as indicated by fewer total errors. There is also consistent agreement in leader position.

TABLE 1

COMPARATIVE PERFORMANCE OF GROUP MEMBERS IN STRUCTURED AND UNSTRUCTURED PHYSICAL ARRANGEMENTS

Summary of Smith's Data from Bavelas (1950)

Patterns	Average Total Errors	Frequency of Occurrence of Recognized Leader at Position:				
		a	b	c	d	e
Circle	14.0	1	2	3	2	3
Chain	7.0	0	1	14	3	0

Leavitt's study used Smith's arrangement but added two additional structures: wheel and Y. Leavitt found that the wheel, Y, chain and circle could be ranked in descending order (most centralized wheel, to least centralized circle) with respect to: a) speed in establishing organizational structure, b) agreement on who the group leaders were, and c) group satisfaction.

The circle had more group errors than the other structures and was the most undecided as to group leader. After fifteen trials, all the structures showed learning; i.e., a reduction in the number of

trials to symbol identification. The subjects at the central position enjoyed their jobs more than those at peripheral positions. Leavitt (1951) offers the following explanation:

> In our culture, in which needs for autonomy, recognition, and achievement are strong, it is to be expected that positions which limit independence of action (peripheral positions) would be unsatisfying.[1]

No attempt was made to transplant leaders from one group to another or to show the relationship between leader identification and his effectiveness in a new structure because of past association; this would be the ability to coordinate or direct the most unstructured situation. The work of Bavelas, Smith, and Leavitt was followed by an abundance of group studies. A study by Heise and Miller (1951), introduced new variables and tasks, but the main contribution of this study was that it demonstrated that no particular kind of group is best in all situations.[2] The performance of the structure, according to their study, depends on the characteristics of the task and the individuals involved.

One area of study that reflects on the problem of optimum

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[1]Leavitt, "Some Effects...," pp. 48.

[2]G. A. Heise and G. A. Miller, "Problem Solving by Small Groups Using Various Communication Nets," Journal of Abnormal Social Psychology, Vol. 46 (1951), pp. 327-35.

group effectiveness is found in the hypothesis by Shaw (1954) that centralized structures (panel) handicap the solution of complex problems.[1] Shaw's main hypothesis was that a common group in which all the subjects are in equal positions (conference) will require less time to solve relatively simple problems than will a group in which one subject is placed in a central position (panel). The results of his experiment were not statistically significant.

Guetzkow and Simon (1955) introduced the distinction between two classes of behavior in the group: direct problem solving behavior, i.e., assigning of roles and functions to group members. They hypothesized that communication restrictions affect only the ability of the group to organize; once it had organized, the different structures are equally efficient in solving problems.[2]

They cite as evidence that structure affects organizational efficiency: Interaction was most stable in the centralized and least stable in the decentralized; the greatest degree of differentiation of functions is found in the centralized, the least in the decentralized.

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[1]M. E. Shaw, "Group Structure and the Behavior of Individuals in Small Groups," Journal of Psychology, Vol. 38 (1954), pp. 139-49; idem, "Efficiency in Different Communication Nets," Journal of Experimental Psychology, Vol. 48 (1954), pp. 211-17.

[2]H. Guetzkow and H. A. Simon, "The Impact of Certain Communication Nets upon Organization and Performance in Task-Oriented Groups," Management Science, Vol. 1 (1955), pp. 233-50.

Trow (1957) develops a point made by Leavitt (1951, p. 49) into the hypothesis that centrality produces high morale and status not just because centrality implies greater access to communication, but because greater access gives autonomy--ability to make independent decisions.[1] His major findings were that autonomy produces a higher level of job satisfaction than does dependence on position, and, secondly, the effect of centrality upon satisfaction is not significant. In the current study, the investigator has expanded this implication for centrality and attempted to manipulate position to develop leader recognition. The relation holds primarily for high-need subjects.

The effect of prolonged experience was investigated by Shaw and Rothschild (1956). Groups in centralized and decentralized structures solved two arithmetic problems a day for ten days. The analyses made of time, scores, number of messages transmitted and satisfaction ratings indicate that the more an individual is at work in a group the higher is his degree of performance and satisfaction.[2] In this study it was also noted that if an individual experience's negative reaction to the situation, this will grow over time.

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[1]D. B. Trow, "Autonomy and Job Satisfaction in Task-Oriented Groups," Journal of Abnormal, Social Psychology, Vol. 54 (1957), pp. 204-9.

[2]M. E. Shaw and G. H. Rothschild, "Some Effects of Prolonged Experience in Communication Nets," Journal of Applied Psychology, Vol. 40 (1956), pp. 281-86.

LeLand Bradford, Director of the National Training Laboratories, has done extensive experimentation in the area of group problems and what can be done to improve the efficiency of groups. This work has been primarily in the area of diagnosing problems that commonly trouble groups and in the training of individuals to perform better in groups.[1]

Another body of research relating to group function is that done by researchers connected with business and industry. Many of the researchers reviewed have worked in this area with the emphasis on development of leadership theory.[2] The population for this research is most often upper middle class adults with high levels of education and past experience in group action and leadership position. The literature in this area is weak in its application to situations using disadvantaged adults. There is very little systematic research on this particular population, although considerable carry-over from research with adults has been used in teaching and program development.[3] Most of the

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[1]"Understanding How Groups Work," Leadership Pamphlet #4, Adult Education Association (AEA) of the U.S.A. (Washington, D. C.: AEA, 1955).

[2]A. Bavelas, "Leadership: Man and Function," Administrative Science Quarterly, Vol. 4 (March, 1962).

[3]Samuel E. Hand, "A Review of Physiological and Psychological Changes in Aging and Their Implications for Teachers of Adults," Florida State Department of Education, Bull. 71G-1 (Tallahassee: By the Department, July, 1965); E. H. Smith, W. D. Cook, W. G. Bradtmueller, "Techniques for Teaching Remedial Cases," Florida State Department of Education, Bull. 71H-5 (May, 1966).

literature in this area is of a general, descriptive nature discussing the extent and scope of the problem, social implications of illiteracy, as well as various psychological factors of adult learning. One of the best collections of material by professionals in the field related to Adult Basic Education is Basic Education for Disadvantaged Adults, which is a collection of readings chosen to provide a varied and comprehensive offering of supplementary materials to practitioners.[1] Although this work is helpful in understanding the problems that are faced by participants and program developers, it does not present any detailed, systematic research.

One of the most complete studies done in relation to disadvantaged adults was that conducted by Greenleigh Associates, under contract OEO-89 for the Office of Economic Opportunity in cooperation with the Office of Education and Welfare Administration. This study involved a field testing of four reading systems which had been developed for functually illiterate adults. Although not directly related to the research undertaken here, this study emphasized the need for more systematic research with this select population.

Group structure and its effect on performance have been reviewed, but in isolated situations, and at this time no attempt has

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[1]F. W. Lanning and W. A. Marry, Basic Education for the Disadvantaged Adult: Theory and Practice (Boston: Houghton Mifflin Co., 1966).

been made to determine the effect of changing recognized group leaders to groups that are indefinite in leadership recognition, or in determining what effect this has on task performance.

Conceptual framework

There are a number of factors that affect leadership performance in a group. Included among these are personality characteristics, time limitations, difficulty of task, group size, group structure, and past experience in group-work. This study is directed at one of the variables, group structure, and its effect on leadership determination and task performance.

It is assumed in this study that group structure, as one factor affecting the group interaction process, is instrumental in determining leadership positions. It is also assumed that there can be transfer of training in leadership by manipulating the physical structure of the group.

It is further assumed here that, although the adults involved in this research will have little formal education, it is within their ability to develop leadership potential, and having done so, they will, in the future, be more active in exerting their own leadership.

The hypotheses growing out of these assumptions and which will be tested are as follows:

1. There will be no significant difference in the number of group mistakes in the accomplishment of an assigned task when moving from a structured to an unstructured situation with the same individuals.

2. There will be no significant difference in the number of group mistakes when moving from an unstructured to a structured group situation with the same individuals.

3. There will be no significant difference in the number of group mistakes when a recognized group leader from a structured situation is moved to an unstructured group situation with new individuals.

4. There will be no significant difference in leadership recognition when moving from a structured to an unstructured situation with the same individuals.

5. There will be no significant difference in leadership recognition when moving from an unstructured to a structured group situation with the same individuals.

6. There will be no significant difference in leadership recognition when a recognized group leader from a structured situation is moved to an unstructured group situation with new individuals.

Procedures

Five subjects were randomly assigned in each group and each was given a list of six symbols. Their task was to discover which symbol they all had in common. The subjects were free to communicate in any way they wished except holding up the card for all to see, and the task was complete when the common symbol was recognized.

Method

The subjects operated first in two groups of five, conference and a panel, with a record being kept of the number of correct and incorrect answers given in each situation. A total of fifteen trials were used in each task; and after each set of five trials, the individuals were

asked to determine who they felt to be the group leader.

The second session had the recognized leader from the panel sit with the same group in the conference, and the conference group moved to the panel situation.

Right and wrong answers were recorded and leader identification was ascertained.

The third and final session had the recognized leader from the panel operate in a conference group with different members. Right and wrong answers were recorded and leader identification was ascertained.

Subjects

The subjects selected for this study were fifteen individuals involved in Adult Basic Education courses in Leon County, North Florida. All participants were women eighteen years of age or older with adult responsibilities and an educational grade achievement of less than eight. Their educational level was determined by scores on the "California Achievement Tests, Elementary."[1] This test measures grade level for reading, math, and language. The average score on these three tests determines educational level.

Individuals for this study were in the range from 3.5 to 7.2 years of school.

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[1]"California Achievement Tests," California Test Bureau (Los Angeles, California: 1962).

Treatment of data

1. Significance of Differences Between Means.[1]

A t test was used to find out if there was a significant difference in the mean performance of the two groups. Based on a small sample technique, this test was used because the number of cases was less than 30.

This test was used in relation to total group errors for the conference and panel.

2. Chi Square

This technique was used to determine whether or not the frequencies observed in the sample departed significantly from expected frequencies. Because of an expected cell frequency of less than 10 it was necessary to apply a modification known as Yates' Correction for Continuity.

This test was used in relation to leader recognition by group members.

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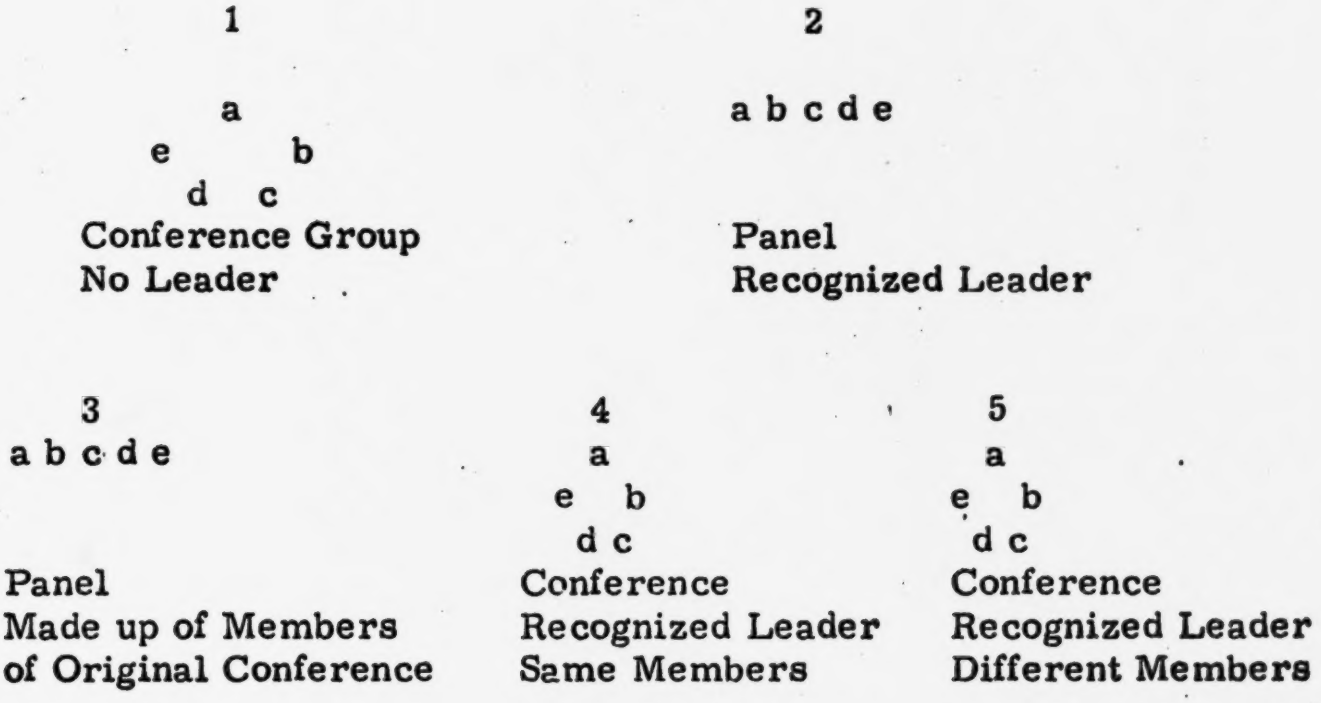
[1]J. P. Guilford, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill, Inc., 1956).

CHAPTER II

Findings

For ease of reference the following diagram is included.



There were a total of fifteen trials for task performance. Leadership recognition was determined at the end of each group of five trials. The frequencies of leader recognition were totaled and the comparison was made on this total. Table 2 summarizes the results of the fifteen trials. In this table the structured situations (Panel) have agreement on central position C as being occupied by the leader, the unstructured (Conference) groups were undeterminable for leader recognition.

TABLE 2

LEADER RECOGNITION IN CONFERENCE AND PANEL GROUPS

Group No.	Positions				
	a	b	c	d	e
	Number of times chosen as leader				
#1 Conference	3	4	1	3	4
#2 Panel	2	0	11	2	0
#3 Panel	1	1	12	0	1
#4 Conference	2	3	4	5	1
#5 Conference	1	5	3	3	3

The findings of this study, using Chi square in relation to significance of leader recognition, is shown in Table 3. As indicated in this table, the results do support the hypotheses that there will be no difference in leader recognition when moving from a structured to an unstructured situation with the same individuals (2 - 4) or when the leader is moved to a conference group with new members (4 - 5).

The results presented also show that we cannot accept the hypotheses that there will not be a difference in leadership recognition when moving from an unstructured to a structured group with the same members (1 - 3).

TABLE 3

CHI SQUARE FOR LEADER RECOGNITION
BY GROUP MEMBERS

Test Groups	df	x^2
1-2	4	11.91*
1-3	4	11.24*
2-4	1	3.34
4-5	1	0
1-5	4	.5

* Indicates significance at .05 level of confidence

Test One

This test compared the original conference situation with the original panel (1 - 2). Chi square was computed for the frequencies of leader recognition and was determined to be 11.91 which is significant at the .05 level. There was consistent agreement on leadership recognition for the panel, leadership recognition for the conference was undeterminable.

Test Two

This test compared the original conference situation when it

moved to the panel situation, where a recognized group leader emerged (1 - 3). Chi square was computed to be 11.2 which was significant at the .05 level. There was agreement in the panel situation on leader recognition. Leadership recognition in the original round table was inconclusive.

Test Three

This test compared the original panel situation when it moved to a conference situation with the same individuals and a recognized leader (2 - 4). Chi square was computed to be 3.34 which was not significant at the .05 level. Leader recognition in the new conference was inconclusive.

Test Four

This test compares the conference group with different individuals and a recognized group leader with the conference situation with the same individuals and a recognized group leader (4 - 5). Chi square was computed to be 0.

Test Five

This test compares the original conference group with no recognized group leader with the conference situation with a recognized group leader with new members (1 - 5). Chi square was computed to be .50 which was not significant at the .05 level.

The significance of differences between means was calculated

from data that were obtained during the fifteen trials. A t test was used in relation to total group errors for both conference and panel. The results are shown in the tables below.

As can be seen in Table 4, the means for the panel groups are lower than all conference situations, indicating that structured situations are more efficient in any particular leader configuration.

TABLE 4

TOTAL ERRORS ON TASK PERFORMANCE FOR THE CONFERENCE AND PANEL GROUPS

Trials 15	Conference (1)	Panel (2)	Panel (3)	Conference (4)	Conference (5)
Sum	96.0	59.0	55.0	70.0	78.0
Mean	6.4	3.9	3.7	4.7	5.2

The data presented in Table 5 represents a comparison between conference and panel groups for task performance.

Test One

At the end of fifteen trials a comparison was made for total errors with the conference and panel (1 - 2). A t test showed that there was a significant difference between the means of the two groups with respect to total group errors. The t test for test one was 5.84 which was significant at the .05 level. For this test significantly more

errors occurred in the conference situation than in the panel.

TABLE 5

THE T TEST OF DIFFERENCE AND STANDARD ERROR BETWEEN MEANS FOR GROUP TASK PERFORMANCE

	Test					
	One (1-2)	Two (1-3)	Three (2-4)	Four (1-5)	Five (1-4)	Six (5-4)
Difference Between Means	2.5	2.7	0.8	1.2	1.7	0.5
Standard Error of Difference Between Means	.428	.396	.404	.338	.358	.304
t	5.84*	6.82*	1.98	3.55*	4.75*	1.64

* Significant at .05 level of confidence with 28 degrees of freedom.

Test Two

The original conference group moved to a panel situation with the same individuals (1 - 3). A comparison was made and a t test was computed of 6.82 which is significant at the .05 level. There were significantly more errors in the conference than in the panel.

Test Three

The panel moved to a conference situation with the same individuals and a recognized group leader (2 - 4). A t test was computed between the two groups for the total number of errors and was calculated to be 1.98 indicating that there was no significant difference in the two groups with respect to number of errors on task performance.

Test Four

This test compared the original conference with no recognized leader with a new conference with different individuals but a past recognized leader (1 - 5). The t test of 3.53 showed that there were significantly more errors in circle 1 than in circle 5.

Test Five

This test compared the original conference with no recognized leader with the conference that was created when the original panel with the same individuals moved to a round table with the same individuals and a recognized group leader (1 - 4). A t test of 4.75 showed that there were significantly more errors in the original conference group than in the conference group that had past experience in the panel and had a recognized group leader operating in it.

Test Six

This test compared the conference group that was created when the original panel moved to the conference setting with a

recognized leader and the conference group with new individuals but a past recognized leader (5 - 4). The t test was calculated to be 1.64 which is not significant at the .05 level.

CHAPTER III

DISCUSSION

Upon examination of the results of all the tests given, the most apparent finding is that the structure of the group seems to be a more important variable in group process for the type of task and individuals used in this study than does position; i.e., results of the test for leader recognition were not significant when recognized leaders moved to a group, where leader recognition is not determined by position. The structure of the group took over and the leader was not determined by his past association in a leadership role.

The results of the test for leader recognition for test one and two (1 - 2, 1 - 3) were predictable and verified the original research of Bavelas, Leavitt and Smith. [1]

Test three (2 - 4) was made to determine the relationship of past associations (position determining leader recognition) and recognition of the leader by the same members in an unstructured situation where leader recognition was not associated with position. Using Chi square the computation proved to be not significant at the .05 level.

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[1]Bavelas, "A Mathematical Model...," pp. 1-34; Leavitt, "Some Effect...," pp. 38-50; Smith, Communication Pattern....

The hypotheses can be accepted that there will be no significant difference in leader recognition when moving from a structured to an unstructured situation with the same individuals.

Test four and five for leader recognition (4 - 5, 1 - 5) were computed and were not significant at the .05 level. A reconstructed group with a recognized leader did not pick this individual as leader in this new group structure. Even though this individual had previously been picked as the leader he was not picked again because of his past association.

Leader recognition did not seem to generalize from one group to another, and the hypothesis that there would be no significant difference in leader recognition when a recognized group leader from a structured situation is moved to an unstructured group with new individuals must be accepted. These five tests seem to indicate that adults in basic education classes were not affected by an individual's past position in a group and that each situation was unique with regard to who was perceived as the leader.

The results of the test for group errors offered the most encouragement for the possibility of future application.

The results of the test for total group errors for test one and two (1 - 2, 1 - 3) were predictable and verified the original research.[1]

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[1]Smith, Communication Pattern...

These tests showed significantly more errors in the conference situation than in the panel; prior experience in the conference setting did not seem to affect the total number of group errors.

Test three (2 - 4) had the original panel members moved to a conference setting with the same individuals, and task performance for these two groups was not significantly different. It should be noted that when moving from a conference to a panel there were significantly more errors in the conference situation.

Test four (1 - 5) supported the results of test one, two, and three. The group that had operated in two prior situations had less errors than the original conference setting. Leader recognition was undeterminable for this test and test six (5 - 4). It would seem that for these particular individuals, the structure of the group and the order of involvement in particular groups has more relation to task performance than does leader orientation.

The importance of the order of involvement seems realistic because when the members move from group one to group three total errors were predictable. The conference did not have significantly more errors than the panel. On the basis of these data, hypothesis number one must be accepted. There will be no significant difference in the number of group mistakes when moving from a structured to an unstructured situation with the same individuals.

Thus, hypotheses number one and three can be accepted. There will be no significant difference in the number of group mistakes

when moving from a structured to an unstructured situation with the same individuals or when moving from a structured to an unstructured situation with a recognized leader and different individuals.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purposes of this study were, first, to investigate the relationship between group structure and leader recognition and, second, to compare task performance with group structure and leader recognition and thus obtain a better understanding of the adult basic education participant in a group situation.

The effectiveness of a group in reaching its designated goals is determined by the individual characteristics of the separate members making up the group. This, however, is not the whole story of effective group performance. The particular structure or combination of individuals making up a group is highly important.

The population for this study were fifteen individuals involved in Adult Basic Education courses in Leon County, North Florida. All participants were women eighteen years of age or older with adult responsibilities and an educational grade achievement of less than eight. All participants indicated a need to work in order to obtain deserved personal goals. The tests were administered in three sessions in a relaxed atmosphere. The data were analyzed by a single t test, and Chi square.

Using these methods, hypotheses number one, three, four, and six must be accepted. Hypotheses number two and five must be rejected. The findings indicated that group structure is a more important variable in task performance than leadership recognition for this particular population.

Conclusions

On the basis of the findings of the study, it may be concluded that adult basic education participants are influenced by the formal structure of a group. This relationship was substantiated with a t test which showed that as individuals move from one group to another there were variations in task performance. This very fact, i.e., that there was a difference in the way members performed in different groups on the task, points up a relationship that heretofore had not been experimentally determined for this particular population. Not only was this very basic relationship shown but, more important, the relationship between past experience in a particular group and performance in a new group was shown to be significant. Leader recognition, however, as a factor in the efficiency of task performance could not be substantiated with this study. The results of the Chi square for leader recognition in the test groups was insignificant.

The findings of this study suggest that group structure as a variable in group process for under-educated adults has more affect on task performance than does leader orientation.

The findings also indicate that there is a relationship between the type of group the adult first has interaction in and the efficiency of subsequent task performance in other groups. Another implication related to this is that although the order of experience is important for task performance it does not correlate with leader identification.

A very important implication of this study is that experimental research at this level can give valuable insights into areas that are often taken for granted by teachers and educational planners. This means that programs involving under-educated adults are in need of the same systematic research that has gone into improving group performance for school children and professionals. It is hoped that in the future it will not be assumed that adults with little education can be taught in any physical setting regardless of ambition or experience.

Recommendations

It should be remembered that in this study the testing was for a very limited number of variables in the group situation. Early research in this area put stress on member satisfaction in group interaction.[1] In this study this variable was not maintained because of a need to first show a relationship at the basic level between structure and task performance and leader recognition as a function of position before expanding the research to include a large number of other important factors.

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[1]Leavitt, "Some Effects...," pp. 38-50.

Beside the need to expand the number of variables, the task should be changed. For this research the problem was already formulated before it was given to the subjects; whereas formulating a problem or adopting one that is not so unrealistic can be an important factor in group satisfaction and participation.

It would also be advisable to repeat the present study under more controlled conditions with more information collected on the particular individuals used: personality tests, family histories, etc.

Besides including a larger number of variables and working in a more controlled situation, considerable time should be given to determining what the goals of the particular individuals are and how these goals relate to the structure of a group. If an individual has a strong personal commitment to become a leader at work, then the kind of educational experiences he has should reflect this and can be helped by careful manipulation of the group.

It is also recommended that teachers make the best use of any physical situation they find themselves in when working with adults with little education. The class room with its thirty odd chairs represents a physical structure and the implication of this structure for the participating adults will be reflected in task performance and the development of leadership potential.

Task performance is affected by group structure, and if a particular group is interested in completing a task or determining

group leaders, then a panel situation should be used. If, however, the group members need to interact and share leader recognition then the conference would be the most appropriate.

The task, individual needs, and potential of members should be matched with the appropriate kind of group structure for satisfactory results.

Current experimental research with adult basic education participants will gain significance only if it is encouraged and expected by teachers and university administrators. To achieve the national goal of eradicating adult illiteracy, which is reflected in current federal legislation, more sound research is needed on the various factors, personal and environmental, which influence learning and learner participation at the basic education level.

BIBLIOGRAPHY

Bales, R. F., "In Conference," Harvard Business Review, Vol. 32 (1954), pp. 44-50.

Bales, R. F., and Borgatta, E., "Size of Group as a Factor in the Interaction Profile," Small Groups. Edited by A. D. Hare et al. New York: Knopf, 1955.

Bavelas, A., "A Mathematical Model for Group Structures," Applied Anthropology, Vol. 7 (1948), pp. 16-30.

_____. "Communication Patterns in Task-Oriented Groups," Journal of Acoustical Society, Vol. 22 (1950), pp. 725-30.

_____. "Leadership: Man and Function," Administrative Science Quarterly, Vol. 4 (March, 1962).

California Achievement Tests, Los Angeles, California, Complete Battery. Elementary Grades. California Test Bureau (California, 1962).

Chilman, C. S., "Growing Up Poor," U. S. Department of Health, Education, and Welfare, Welfare Administration, Division of Research, Publication # 13, Washington, D. C.: May, 1966.

Guetzkow, H., and Simon, H. A., "The Impact of Certain Communication Nets Upon Organization and Performance in Task-Oriented Groups," Management Science, Vol. 1 (1955), pp. 233-250.

Guilford, J. P., Fundamental Statistics in Psychology and Education, New York: McGraw-Hill Inc., 1956.

Hand, S. E., "A Review of Physiological and Psychological Changes in Aging and Their Implications for Teachers of Adults." Florida State Department of Education, Bull. 71G-1, July, 1965.

Hare, A. P., Handbook of Small Group Research. Glencoe, Illinois: Free Press, 1962.

Hare, A. P., "Interaction and Consensus in Different Size Groups," American Sociological Review, Vol. 17 (1952), pp. 261-267.

Heise, G. A., and Miller, G. A., "Problem Solving by Small Groups Using Various Communication Nets," Journal of Abnormal and Social Psychology, Vol. 46 (1951), pp. 327-335.

Lanning, F. W., and Marry, W. A. Basic Education for the Disadvantaged Adult: Theory and Practice. Boston: Houghton Mifflin Co., 1966.

Leavitt, H. J., "Some Effects of Certain Communication Patterns on Group Performance," Journal of Abnormal and Social Psychology, Vol. 46 (1951), pp. 38-50.

Public Law 88-452, Title II, Part B of the "Economic Opportunity Act of 1964," Eighty-eighth Cong., 2nd Sess.. (August 20, 1964).

Rosenberg, S., and Hall, R. L., "The Effects of Different Social Feedback Conditions Upon Performance in Dyadic Teams," Journal of Abnormal and Social Psychology, Vol. 57 (1958), pp. 271-277.

Shaw, M. E., "Group Structure and the Behavior of Individuals in Small Groups," Journal of Psychology, Vol. 38 (1954), pp. 139-149.

_____. "Some Effects of Problem Complexity Upon Problem Solution Efficiency in Different Communication Nets," Journal of Experimental Psychology, Vol. 48 (1954), pp. 211-217.

Shaw, M. E., and Rothschild, G. H., "Some Effects of Prolonged Experience in Communication Nets," Journal of Applied Psychology, Vol. 40 (1956), pp. 281-286.

Smith, S. L., "Communication Pattern and the Adaptability of Task-Oriented Groups." The Polity Sciences, Lerner and Lasswell (eds.) Stanford University Press, 1950.

Smith, E. H., Cook, W. D., and Bradtmueller, W. G., "Techniques For Teaching Remedial Cases," Florida State Department of Education, Bull. 71H-5, May, 1966.

Trow, D. B., "Autonomy and Job Satisfaction in Task-Oriented Groups," Journal of Abnormal, Social Psychology, Vol. 54 (1957), pp. 204-209.

"Understanding How Groups Work," Leadership Pamphlet # 4, Adult Education Association (AEA) of the U.S.A. (Washington, D. C.: AEA, 1955).

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